

REMARKS

This application contains claims 1-11, 13 and 19-118. Claims 1-11, 13 and 19-65 have been canceled without prejudice. New claims 66-118 have been added. No new matter has been introduced. Reconsideration is respectfully requested.

Claims 1-11, 13 and 19-65 were rejected in an Official Action dated March 4, 2005, under 35 U.S.C. 102(b) over Mackworth ("Consistency in Networks of Relations"). While disagreeing with the grounds of rejection, Applicant has canceled the rejected claims and introduced new claims 66-118 in their place. Claims 66, 92 and 118 are independent claims, while the remaining new claims depend from either claim 66 or claim 92.

Claim 66 recites a method for solving a constraint satisfaction problem (CSP) based on building a network of hyper-arcs representing a set of constraints among the variables of the CSP. The constraints include one or more relations defined as a combination of operators that are applied to the variables, including at least one operator selected from a group of arithmetic and bitwise operators. A network of hyper-arcs is built to represent the set of constraints. The input domains of the variables in the network are reduced in order to determine output domains consistent with the relations.

Claim 66 is similar to claim 24 as originally filed in this application, except that claim 24 recited a combination of operators including at least one operator selected from a group of arithmetic, bitwise and logical operators. In response to the previous Official Action in this case, Applicant pointed out that Mackworth neither teaches nor suggests a relation between variables defined as such a combination of operators. In the most recent Advisory Action, the Examiner stated (presumably in reference to claim 24), "Boolean procedures and operators are axiomatically linked. Simple logical operators are acceptable." Although the Examiner did not explain this statement any further, Applicant took it to indicate that if logical operators were deleted from the combination recited in claim 24, the claim would then distinguish over Mackworth.

Claim 66 has been framed accordingly. Although Mackworth refers to logical relations, he neither teaches nor suggests that a CSP might be defined in

terms of a combination of operators including arithmetic or bitwise operators, which are applied to the CSP variables, as recited in claim 66. Therefore, claim 66 is believed to be patentable over Mackworth.

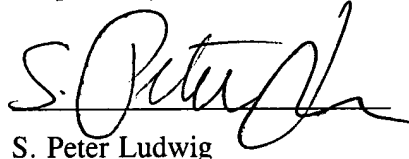
Claims 92 and 118 respectively recite apparatus and a computer software product for solving a CSP, based on principles similar to the method of claim 66. Therefore, for the reasons explained above, claims 92 and 118 are also believed to be patentable.

Dependent claims 67-91 and 93-117 are based on the claims originally filed in this application, with certain changes of phrasing and dependence to accord with the new independent claims. In view of the patentability of the independent claims, these dependent claims are also believed to be patentable.

Applicant believes the amendments and remarks presented hereinabove to be fully responsive to all of the objections and grounds of rejection raised by the Examiner. In view of these amendments and remarks, Applicant respectfully submits that all of the claims in the present application are in order for allowance. Notice to this effect is hereby requested.

Date: May 31, 2005

Respectfully submitted,

A handwritten signature in black ink, appearing to read "S. Peter Ludwig", written over a horizontal line.

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